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ABSTRACT

This paper explores some trends in U.S. education, student achievement, and worker earnings. Some of the findings are the following: (1) U.S. students are doing well in reading literacy but lag behind other leading nations in mathematics and science; (2) U.S. elementary school students have one of the lowest pupil-teacher ratios among the world's industrial nations; (3) K-12 expenditures per U.S. student continue to outpace spending by most other countries, but this spending is a lesser percentage of Gross Domestic Product than most other countries; (4) more U.S. students complete high school and earn college degrees than in any other nation, but the gap is narrowing; (5) more students are earning college degrees in mathematics, computer science, and engineering in most other industrialized nations while the percentage of Americans awarded degrees in these areas has dropped steadily since 1985; (6) U.S. students spend fewer days in classrooms than most other students, but they spend more time in the classroom each day than in most other countries; (7) increased educational achievement increases earnings; and (8) corporations are investing more in educating and training employees. (KC)

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FALL 1996

NATIONAL ALLIANCE OF BUSINESS

WORKFORCE ECONOMICS

WORKFORCE TRENDS

Are American Students Prepared to Compete Internationally?

Today's students will be the workforce of tomorrow. The fall issue of *Workforce Trends* is a collection of data that explores academic achievement, education attainment and other educational indicators compared to our international competitors.

The data presented begins to tell a story — suggesting that while there are bright spots in our education picture, we cannot become complacent about our performance. Workforce requirements are changing and more is being required, not less. As other nation's move aggressively to take advantage of new opportunities, we need to accelerate our pace of improvement to keep pace with these changes and compete effectively in an environment marked by constant change. Consider the following:

- American students are doing well in reading literacy, but lag behind other leading nations in math and science.
- America's elementary school students enjoy one of the lowest pupil-teacher ratios among the world's industrialized nations.
- K-12 expenditures per American student continues to outpace spending by most other countries.
- More American's complete high school and earn college degrees than any other nation but the gap is narrowing as other parts of the world are experiencing a rapid increase in the number of persons completing high school and college.
- More students are earning college degrees in math, computer science and engineering in most other industrialized nations while the percentage of Americans awarded degrees in these areas has dropped steadily since 1985.
- Recent data from the U.S. Census Bureau reinforces the connection between education and higher lifelong earnings.

In our rapidly evolving global economy, education is a key measure of a nation's competitiveness and a reflection of the standard of living enjoyed by its citizens. There is good news and not-so-good news from America.

Workforce Trends is a compilation prepared by the Alliance of research profiling our nation's current and future workforce. The information — statistics, facts and demographics — highlighted are intended to help advance efforts to build a quality workforce.

Alliance members receive Workforce Trends quarterly. Further information and analysis about the state of the American workforce are provided through the Alliance's newsletters — WorkAmerica, Workforce Economics and Legislative Update.

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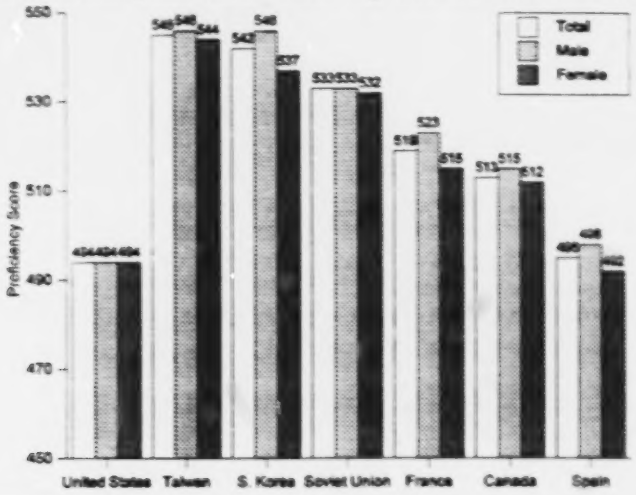
COMPARATIVE INTERNATIONAL EDUCATION STATISTIC

STUDENT ACHIEVEMENT . . . HOW AMERICAN STUDENTS SCORE

Math, science, and reading represent the foundation for a country's population to compete in today's rapidly evolving and increasingly more complex workplace.

MATHEMATICS

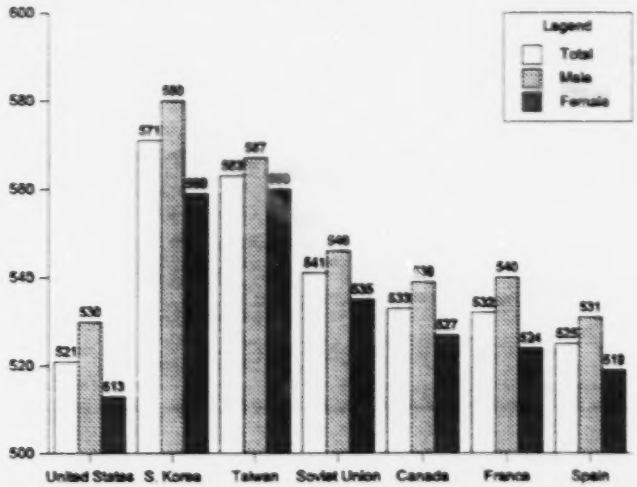
American thirteen year-old students lag behind other nations in math.



NOTE: Score range between 0 and 1000. Canada assessed nine out or 10 provinces. Fourteen out of fifteen republics were assessed in the former Soviet Union. Spain assessed all regions except Cataluna; Spanish speaking schools.
SOURCE: Educational Testing Service, International Assessment of Education Progress, 1992.

SCIENCE PROFICIENCY

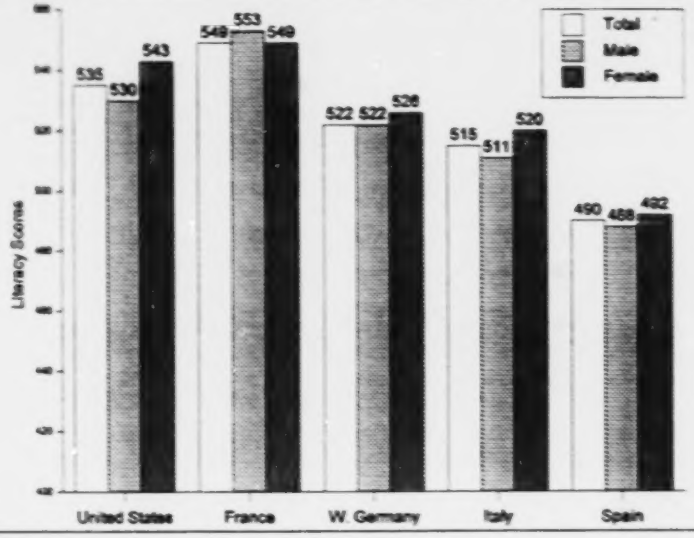
Thirteen year-old American students score low in science.



NOTE: Score range between 0 and 1000. Canada assessed nine out or 10 provinces. Fourteen out of fifteen republics were assessed in the former Soviet Union. Spain assessed all regions except Cataluna; Spanish speaking schools.
SOURCE: Educational Testing Service, International Assessment of Education Progress, 1992.

Reading Literacy

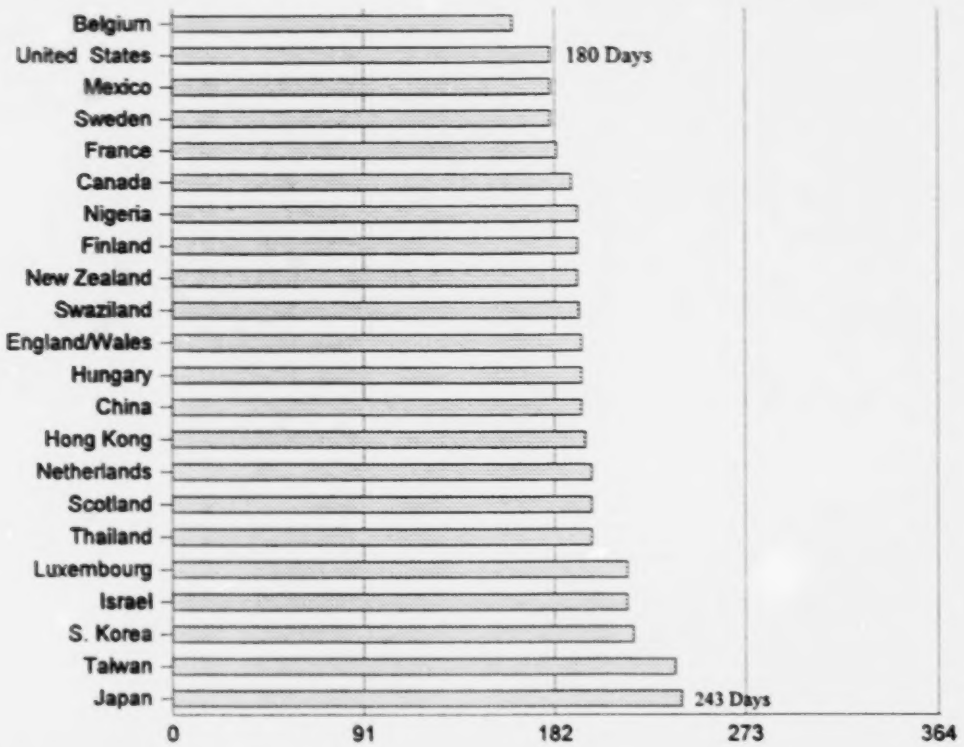
Fourteen year-old American students do well in reading, leading most other major nations.



NOTE: Scores range between 0 and 1000.
SOURCE: Educational Testing Service, International Assessment of Education Progress, 1992.

Length of the School Year

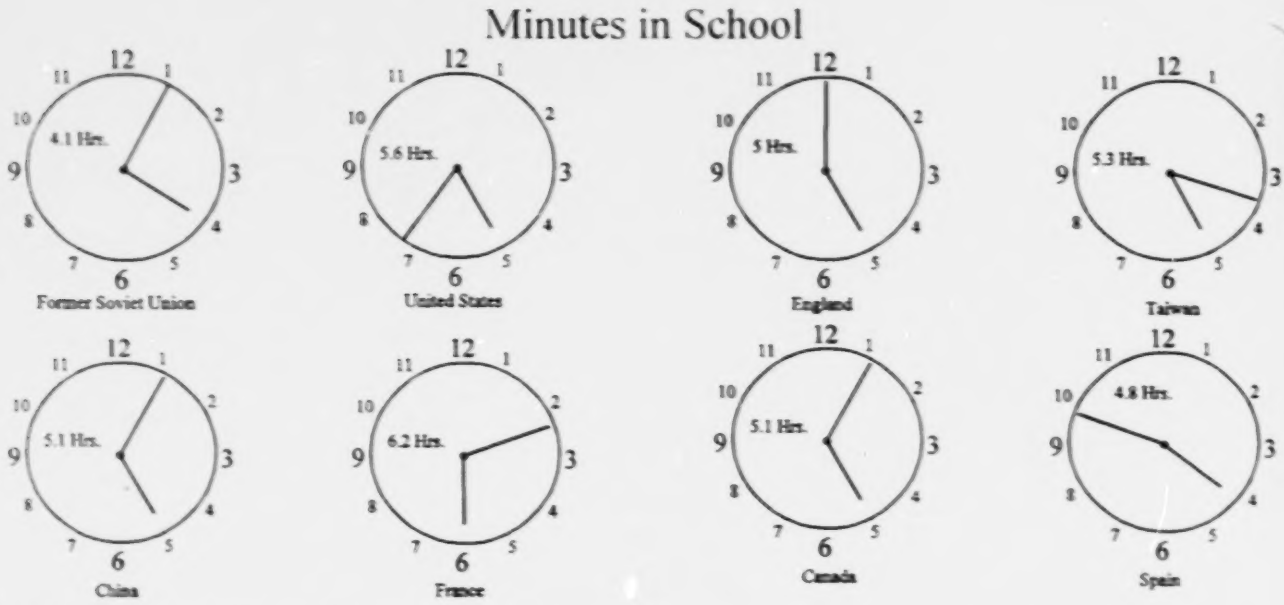
U.S. students spend fewer days in classroom than most other students.



SOURCE: Organization for Economic Cooperation and Development, 1992.

Time in The Classroom

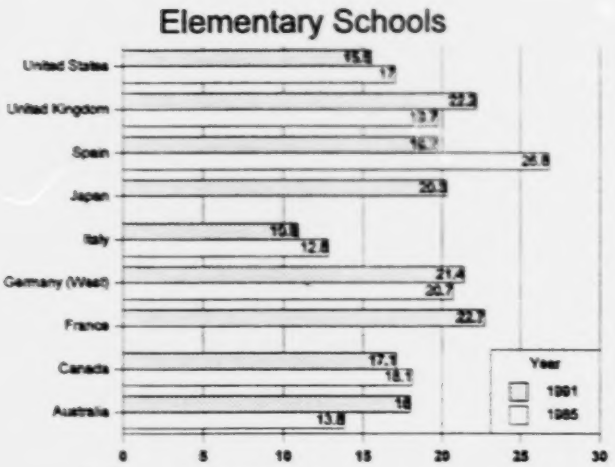
Americans spend more time in the classroom each day than most other countries.

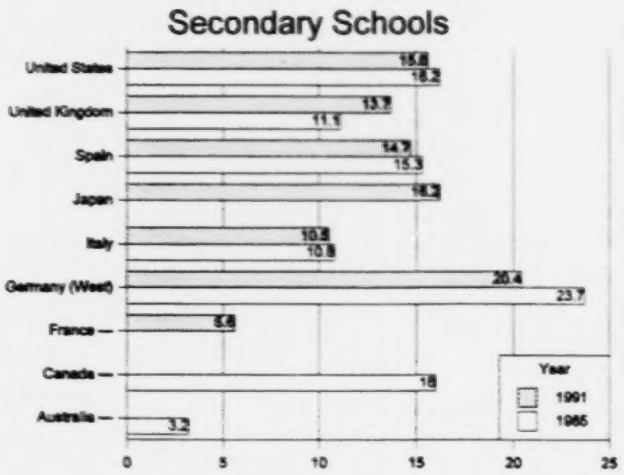


SOURCE: Organization for Economic Cooperation and Development, 1991.

Pupil Per Teacher Ratio

The pupil-teacher ratio in American classrooms has declined since 1985.



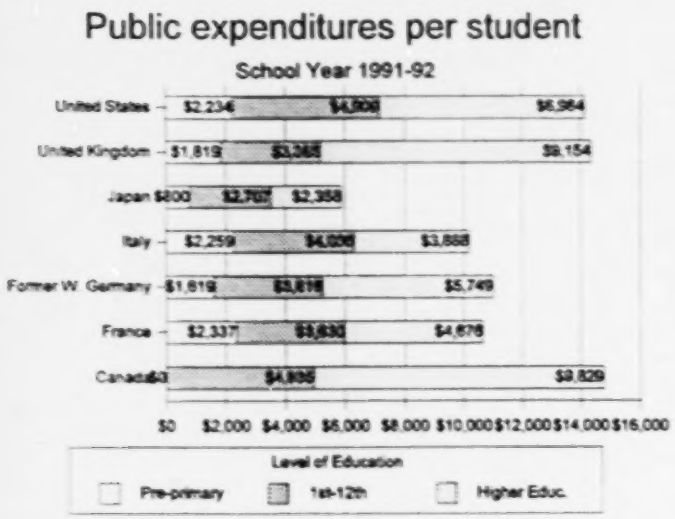


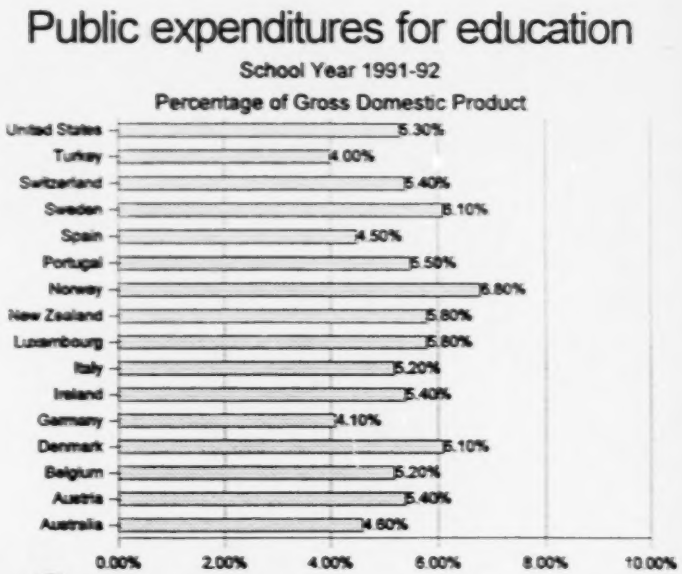
NOTE: — Data not available.

SOURCE: Organization for Economic Cooperation and Development.

Public Education Expenditures

Among the G-7 countries, only Canada showed a higher level of K thru 12 public education expenditures than the United States. As a percentage of GDP, the U.S. lags behind most other countries.



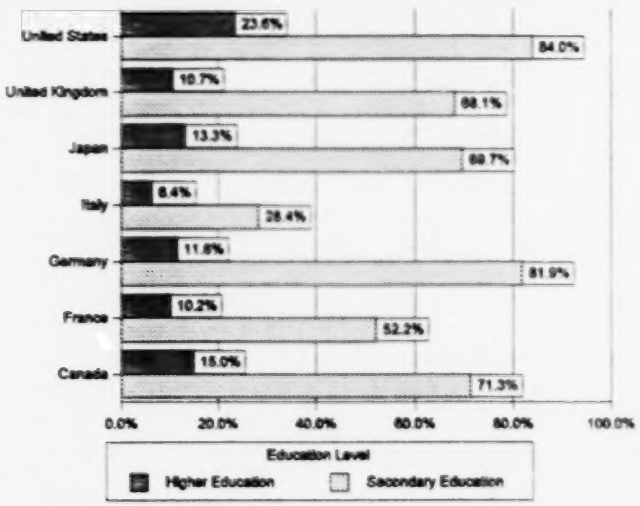


SOURCE: Organization for Economic Cooperation and Development.

Secondary and Higher Education Completions

Percentage of the population who have completed secondary and higher education, 1992

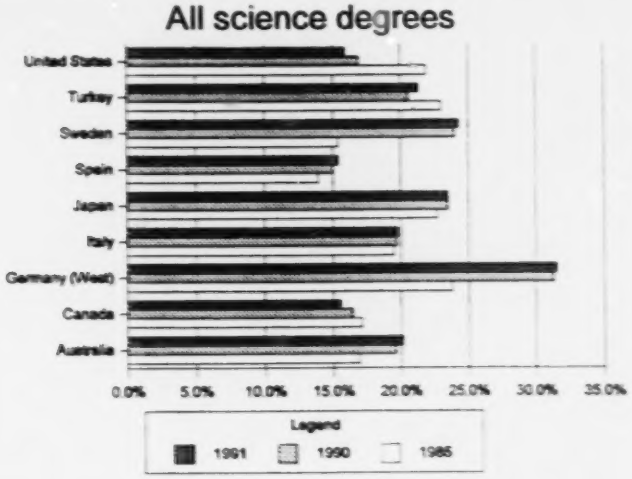
More Americans complete secondary and postsecondary education than in any other country.

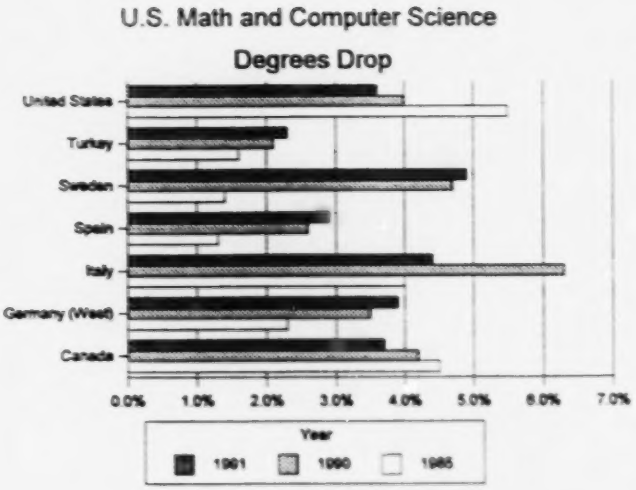


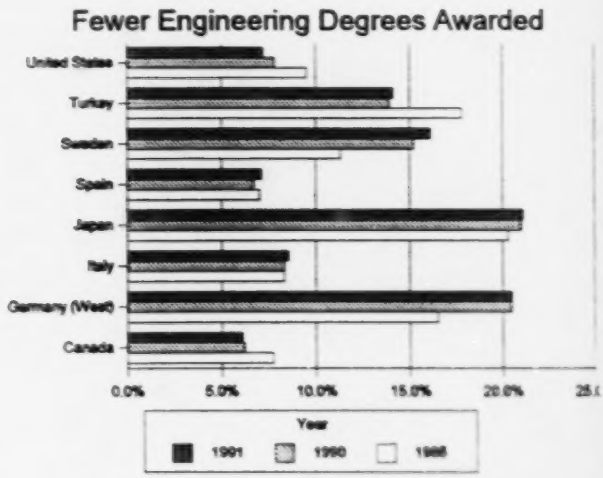
SOURCE: Organization for Economic Cooperation and Development.

Degrees Awarded in Science, Math, and Engineering

The percentage of U.S. students awarded undergraduate degrees in math, science, and engineering has dropped steadily since 1985 while most other countries have increased or remained constant.







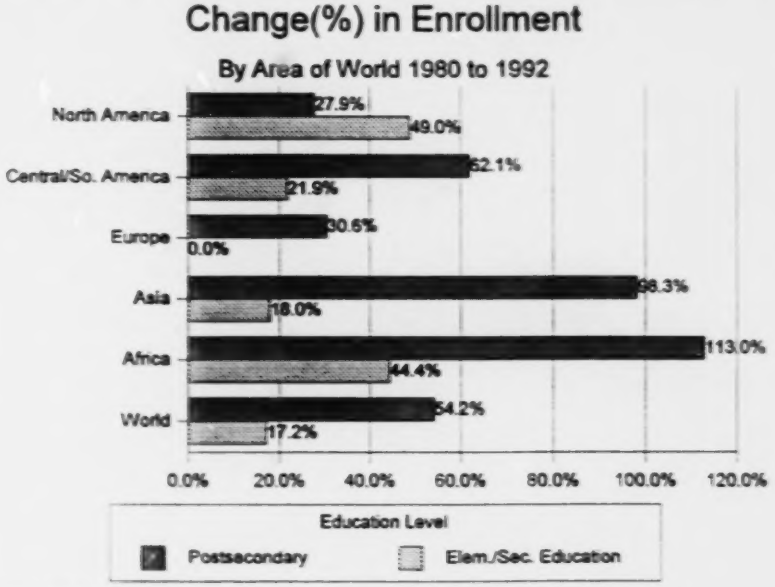
SOURCE: United Nations Educational Scientific and Cultural Organization

Among the Findings of International Mathematics and Science Studies . . .

The U.S. mathematics and science curriculum is less demanding than that of high-achieving countries. There are fewer classes in algebra, geometry, and calculus, with an over-emphasis on arithmetic and remedial arithmetic. In 85% of the high-achieving countries, there is a formal, required link between the standards and instructions. The U.S. is among 15% of countries for which instruction is not driven by standards.

United States National Research Center
Third International Mathematics and Sciences Study

THIRD WORLD SCHOOL ENROLLMENT CONTINUES TO RISE

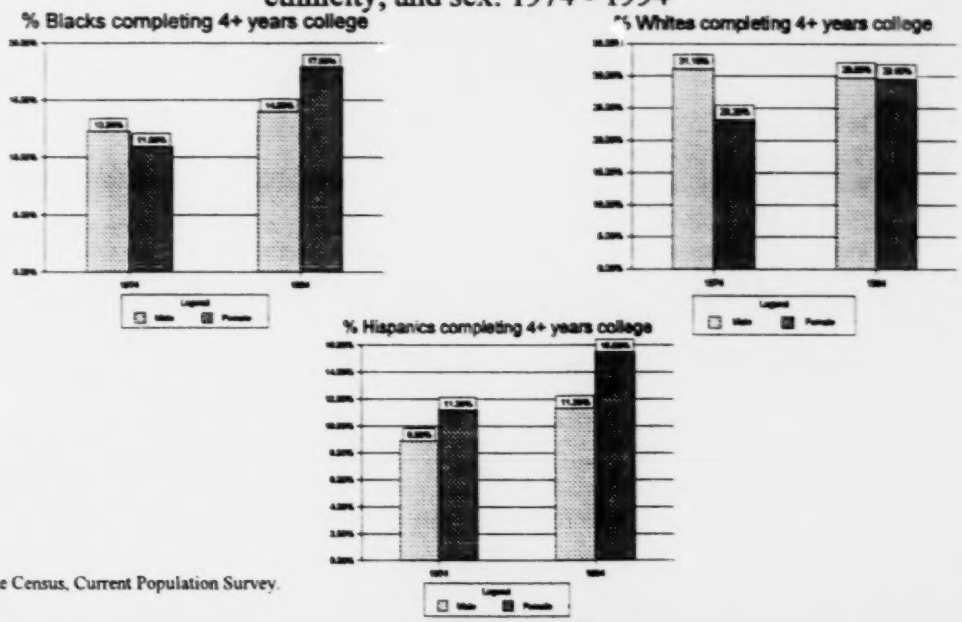


SOURCE: United Nations Educational Scientific and Cultural Organization.

DOMESTIC COLLEGE ENROLLMENT OF FEMALES AND MINORITIES IS INCREASING

- More 25-29 year-olds are receiving bachelor's degrees.
- Among white population, and particularly among white females, there has been a significant increase in those getting 4 or more years of college education.
- Black population, and had a more modest gain overall, but black females had a more significant increase than black males.
- For Hispanics the gain was very modest, possibly due to significant increase in Hispanic population.

Percent completing four or more years of college by race, ethnicity, and sex: 1974 - 1994



SOURCE: Bureau of the Census, Current Population Survey.

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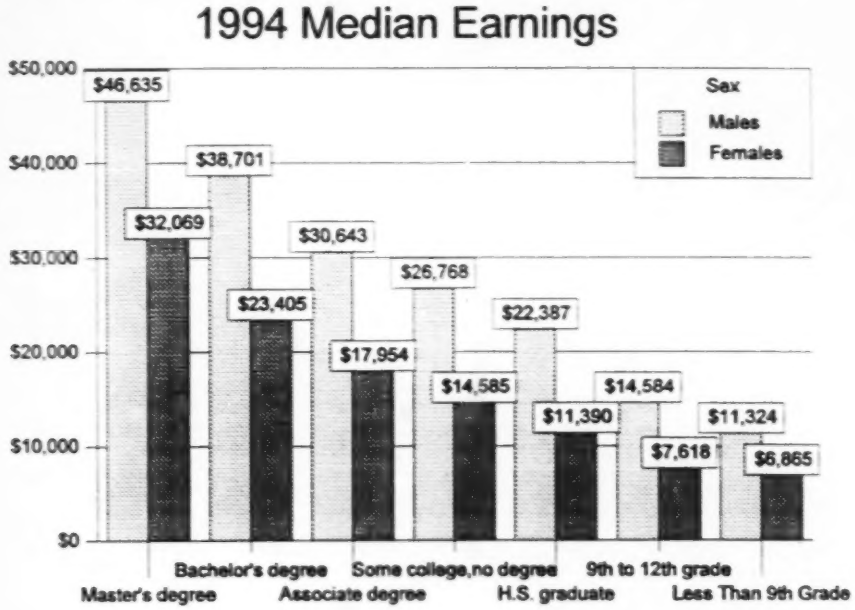
NOTEWORTHY DOMESTIC TRENDS

Earnings Directly Tied to Education

Increased educational attainment increases earnings. Education is a stepping stone to improved earnings for both males and females.



Corporations Invest More in Educating and Training More Employees

In 1995, corporate training budgets totaled about $52 billion representing a 15 percent increase from the level reported in 1990. Over 41 percent (approximately 46 million) of employees reported receiving skill training from their employer in 1991, up from 36 percent in 1983. (Source: Training Magazine, Annual Industry Report).

More Corporations Establish Universities

We are witnessing dramatic growth in corporate "universities" with well over 1,000 in existence now up, from 400 in 1989. (Source: Jeanne C. Meister, Quality Dynamics Inc.)

Companies Experimenting With Outsourcing Training

About 30 percent of the annual expenditure for training by U.S. companies goes to outside providers. Companies are experimenting with these outsourcing strategies: keeping training design inside and outsourcing development and delivery; using cost-benefit analysis to select training providers; forming alliances with junior colleges, universities, and training companies; pooling training resources across companies; and forming partnerships with a vendor to share resources. (Source: Charles Bent, NYNEX Training and Education.)

More Employers Turning to Temporary Services

Total payroll for professionals and managers employed by temporary services companies has tripled from $335 million in 1991 to $1.02 billion in 1994. (Source: American Management Association).

Quote of Note...

"The fastest growth industry in the U.S. will soon be the continuing education of adults because things are changing so fast in every field and occupation." -- Peter Drucker, Author and Business Management Consultant --